

MINISTERUL EDUCAȚIEI NAȚIONALE
INSPECTORATUL ȘCOLAR JUDEȚEAN IAȘI

OLIMPIADA NAȚIONALĂ DE CHIMIE

EDIȚIA a XLVIII-a

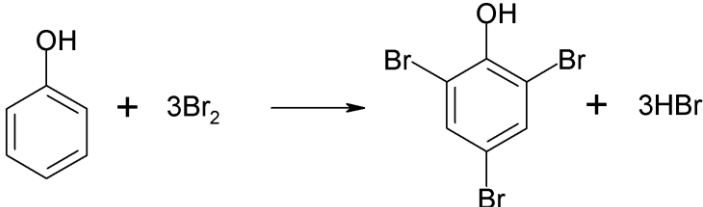
IAȘI, 6 - 13 APRILIE 2014

Barem de evaluare și de notare

Proba practică

Clasa a XII-a

1. $\text{KBrO}_3 + 5\text{KBr} + 3\text{H}_2\text{SO}_4 \rightarrow 3\text{Br}_2 + 3\text{K}_2\text{SO}_4 + 3\text{H}_2\text{O}$ 5 p
2. $3\text{Br}_2 + 6\text{KI} \rightarrow 3\text{I}_2 + 6\text{KBr}$ 5 p
3. $\text{I}_2 + 2\text{Na}_2\text{S}_2\text{O}_3 \rightarrow 2\text{NaI} + \text{Na}_2\text{S}_2\text{O}_6$ 5 p
4. $\text{K}_2\text{Cr}_2\text{O}_7 + 6\text{KI} + 14\text{HCl} \rightarrow 2\text{CrCl}_3 + 3\text{I}_2 + 8\text{KCl} + 7\text{H}_2\text{O}$
- $\text{I}_2 + 2\text{Na}_2\text{S}_2\text{O}_3 \rightarrow \text{Na}_2\text{S}_4\text{O}_6 + 2\text{NaI}$ 5 p
5.


5 p
6. Dicromat: $2 \cdot 10^{-2}$ mol/L; tiosulfat: 0,1 mol/L. 5 p
7. De la albastru intens la incolor. 10 p
8. $\text{C}_{\text{Na}_2\text{S}_2\text{O}_3} \text{V}_{\text{Na}_2\text{S}_2\text{O}_3} = 6 \text{C}_{\text{KBrO}_3} \text{V}_{\text{KBrO}_3}$ 10 p
9. $\text{C}_{\text{KBrO}_3} = 3,93 \cdot 10^{-3}$ mol/L. 20 p
10. $\text{c}_{\text{fenol}} = 4,28 \cdot 10^{-3}$ mol/L; $\text{N}_{\text{fenol}} = 2,568 \cdot 10^{-2}$ echiv./L; $\text{T}_{\text{fenol}} = 4,02 \cdot 10^{-4}$ g/mL;
 $\text{m}_{\text{fenol}} = 10,05 \cdot 10^{-2}$ g; puritate: 67%. 30 p

Comisie: Adrian Bîrzu, Anița Luncan, Silvia Pârâu, Crenguța Radu